

sharply-outlined job, operating on the endless-bed principle. Two separate machines are used, one for cutting the tongues and the other for the grooves.

In addition to carrying closet lining of cedar, the alert mill will do well to carry clothes pole rods in stock. These are simple full rounds, usually 1½" in diameter, and may be kept in lineal lengths so that the lengths desired may be furnished at any time. It is also easily possible to keep a number of support brackets for the ends of such

rods on hand, bandsawn to proper form to receive the rods.

(Editorial Note)—End matching machines of the general type mentioned are made by the Yates-American Machine Co., Beloit, Wis.

"Dry" Oils for Industrial Use

Designated by the trade name of "Van Caloria," new oils containing colloidal graphite and designed for high temperature lubricating (above 400° F) are added to the line of industrial lubricants announced by Esso Marketers. These lubricants are being distributed by Standard Oil Companies of New Jersey, Pennsylvania and Louisiana; the Colonial Beacon Oil Company; and Penola, Inc.

Under the high temperatures for which the lubricants are designed, the oil gradually vaporizes leaving no residue from the oil itself but only a fine film of "dry" colloidal graphite.

Under friction and heat this graphite film is absorbed by the surface material, forming what is known technically as a graphoid surface. Lubrication from that point on is entirely "dry" until the supply of oil is renewed. Thus the graphite prevents actual metal-to-metal contact until a new supply of Van Caloria reaches the bearing surfaces.

The development has been made possible by the introduction recently of Esso "Caloria" oils, the prime characteristic of which is that they evaporate at temperatures above 400° without leaving any carbon residue.

The new Van Caloria oils, like the "Caloria" types, are available in several viscosities to suit varying lubricating conditions and methods. The oils range

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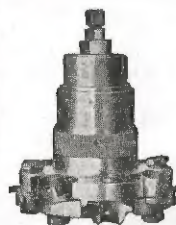
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in viscosity from light-bodied liquids to highly viscous types.

The oils are black in color, due of course, to the suspended graphite.

The oils may be applied by any of the conventional methods, including spray, oil can, mechanical lubricator, pressure gun, etc., depending on the design of equipment and operating conditions.

Lumber Defects with Reference to Machining

By John E. Hylar

There are some lumber defects which cause trouble in machining of wood, and there are other defects which arise from faulty machining of lumber that is almost perfect in itself. Very often one finds a certain amount of softwood lumber that is bowed and twisted as a result of so-called "compression wood" in the tree. There is really only one way to utilize such lumber to any advantage, and that is to work it into low-grade products, or into products having pieces of material so small that the crookedness of the material will be reduced to a minimum.

Material of this kind is somewhat dangerous to work, for it often pinches on saw blades. Especially at a handfeed rip saw where care should be used to prevent kickback on material of this kind.

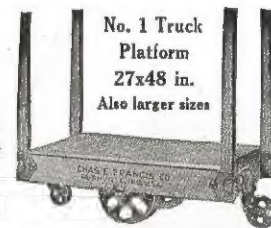
So-called checking of lumber is often due to faulty drying processes or schedules. Checks are really tiny surface splits caused by drying the material so fast on the surface that the surface shrinks more rapidly than the inner portion of the lumber, and these tiny ruptures are the result. Differences are evident in different species of wood, for where a material has more or less of an interlocked grain, as in gum, there may be pronounced twisting or warping and yet little checking or splitting. On the other hand, where the grain is exceptionally straight, and made up of alternating hard and soft strata, as in Douglas fir, a heavy plank may split from end to end. Boards of many species split badly in the ends during drying, because the end grain gives off the moisture much faster under drying con-

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